INSTITUTE OF PUBLIC HEALTH
BENGALURU
Strengthening health systems since 2005

Rapid assessment checklist for health systems response to Cholera

To make a rapid assessment of preparedness in district or assess ongoing outbreak response, go directly to checklist on p.12

Rapid assessment resource for district health systems response to Cholera v1 dated 11 October 2021.

Resource adapted from sources listed in references by Prashanth N Srinivas (MBBS, MPH, PhD), Samraksh K. R. (BDS, MPH) & Pragati B Hebbar (BDS, MDS) from IPH, Bengaluru.

Cholera disease overview

Cholera is a diarrhoeal disease caused by infection of the intestine with the bacterium Vibrio cholerae (type O1 or O139). Both children and adults can be infected. About 20% of those who are infected develop acute, watery diarrhoea – 10–20% of these individuals develop severe watery diarrhoea with vomiting. If these patients are not promptly and adequately treated, the loss of such large amounts of fluid and salts can lead to severe dehydration and death within hours. The case-fatality rate in untreated cases may reach 30–50%.

Cholera outbreaks can spread rapidly, cause many deaths, and quickly become a serious public health issue. Cholera outbreaks can be managed through early detection, timely confirmation of cases, and a coordinated and effective response effort (WHO). The disease can affect people differently based on gender, age and cultural practices. For example: Women and girls bear the greater responsibility in preventing the spread of Cholera due to their traditional roles in food preparation, sanitation and enforcement of household hygiene. Men are more vulnerable to the disease due to their high mobility, resulting in food consumption in outlets with poor safety practices. Children between the ages of 6months to 10 years are at a higher risk due to their habits of placing objects in the mouth and a less developed understanding of hygiene practices.

Treatment involves rehydration which is quite straightforward and, if applied appropriately, should keep case-fatality rate below 1%. Cholera is usually transmitted through faecally contaminated water or food. The greatest risk occurs in over-populated communities characterized by poor sanitation, unsafe drinking-water, and increased person-to-person transmission. Because the incubation period is very short (2 hours to 5 days), the number of cases can rise quickly.

Common Sources of Cholera Infection in the Community

1. Faecal contamination of drinking water at the sources (unprotected wells, boreholes, standpipes), during transport or supply, or during storage (for example, by contact with hands soiled by faeces).
2. Uncooked food made with or washed with contaminated water, drinks made with contaminated water that are not later boiled, ice made with contaminated water.
3. Cooking and eating utensils washed in contaminated water.
4. Food contaminated during or after cooking or preparation and allowed to remain at room temperature for several hours provide an excellent environment for the growth of V. cholerae.

5. Fish taken from contaminated water and eaten raw or insufficiently cooked or contaminated during preparation.
6. Fruit and vegetables grown at or near ground level irrigated with water containing human waste or rinsed with contaminated water, and then eaten raw, or contaminated during handling, washing and preparation.
7. Many of the above sources will be found at markets and/or food vendor stalls and at transport hubs (e.g. bus stations).
8. Additional sources of contamination include bodies of people who have died of cholera, including during burial ceremonies where corpses are touched or where food is shared.
9. Household members and close neighbours of cholera patients are at increased risk of cholera in the days immediately following the patient's illness. Risk decreases with time and distance.

Outbreak detection

Being a notifiable disease, outbreak detection follows guidelines issued by the MoHFW & state HFW. Once an outbreak is detected a multisectoral response is needed for early and effective control and limiting spread.

Activate or establish a cholera coordination committee or task force that meets weekly/fortnightly to coordinate the response, identify challenges and mobilize resources to address those challenges. This committee can include DHO and relevant program officers from HFW, relevant department heads from medical college (community medicine and any other relevant department), department heads of public works, zilla panchayat and water and sanitation authorities in case of city/municipal corporations, and especially include local NGOs with good track record of community engagement and community-based organisations of affected communities (youth clubs/sanghas of the area affected).

Consider approaching WHO/UNICEF state/regional rep regarding procurement of Cholera kits

Epidemiology

To understand the disease progression and to help create effective strategies to curb further spread of the outbreak, it is important to do the following:

1. Collect information on suspected cholera cases and deaths from the community
2. Conduct field investigations in the affected areas to identify patients in the community (active case finding), explore possible sources of contamination, and identify risk factors and transmission pathways.

3. Compile data daily from the treatment centres and describe the outbreak in terms of who is affected, where the outbreak is located and its evolution to guide control measures.
4. If possible, collect geographic information system (GIS) points and create maps of patients' households and water sources to help identify high-risk areas. Collection of geolocalization data may be done by teams visiting patients' homes to carry out prevention activities.
5. Strengthen epidemiological and laboratory capacity for surveillance.
6. Conduct epidemiological studies (such as KAP and case control studies) to identify risks and gaps.
7. Standard line lists or registers should be available and used in all treatment centres.

Key actions to reduce the spread of the disease

1. Identify possible sources of contamination and main transmission routes to target interventions.
2. Provide safe water in sufficient quantity and improve sanitation and safe excreta disposal and management.
3. Monitor water sources regularly for free residual chlorine (FRC) levels and report findings to coordination committees; emphasize gaps in chlorination.
4. Identify gaps and promote hygienic conditions and practices (such as handwashing, household water treatment and storage, safe preparation of food, safe burials) and report findings to the coordination committee for immediate action.

Case Management

To help reduce the mortality and reduce the burden of the disease the following steps can be taken:

1. Widepspread mass announcements in local media on what people should do if someone is ill with diarrhoea; consider announcing a district/taluka/Panchayat helpline number in case of symptoms; include instructions about rehydration with ORS at home or on the way to a treatment facility and how and where to seek immediate treatment.
2. Immediately set up decentralized cholera treatment facilities (CTUs/CTCs) and oral rehydration points (ORPs) for rapid access to treatment. PHCs can function as CTCs while ORPs can be rapidly set up in sub-centers/HWCs and even at GP level if needed.
3. Ensure staff are trained on standard case management treatment protocols, Infection Prevention and Control (IPC) measures and adequate supplies are available and job aids are in place.

4. Have 108 ambulances/vehicles deployed in affected areas for rapid transfer of severe cases for IV fluid treatment.
5. Distribute validated treatment protocols to health facilities and CTUs/ CTCs.
6. Train health-care workers on the use of Rapid Diagnostic Tests (RDTs), specimen collection and transport procedures.

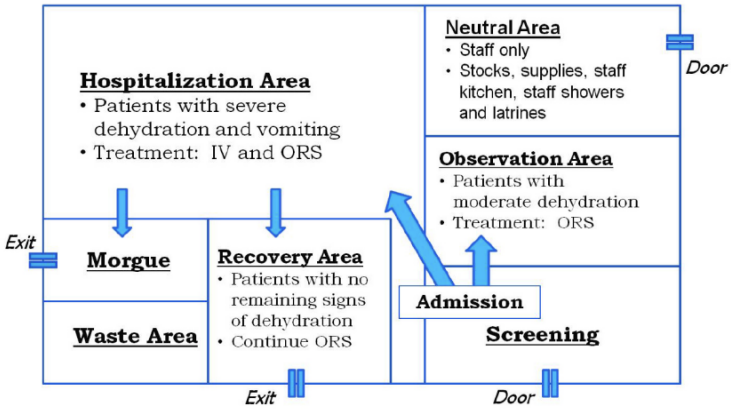
Development and Operation of a Cholera Treatment Center (CTC) Pocket Guide

Interim Guidance - July 2017

Location

Cholera Treatment Centers should be:

1. Where patients can easily access the facility
2. Located away from water sources and functioning facilities (e.g. schools, markets, dispensaries)
3. Separated from other patient wards, if located within an existing healthcare facility
4. Easy to clean



Triage

If no dehydration

- Refer patient to normal dispensary

If some dehydration = "Moderate Case"

1. Register patient
2. Admit patient to Observation Area
3. Treat patient with Oral Rehydration Salt (ORS) solution
4. Move to Hospitalization Area if patient worsens, discharge when patient recovers

If severe dehydration and/or uncontrollable vomiting = "Severe Case"

1. Register patient
2. Admit patient to Hospitalization Area

source: CDC

Rapid assessment resource for district health systems response to Cholera v1 dated 11 October 2021.
Resource adapted from sources listed in references by Prashanth N Srinivas (MBBS, MPH, PhD), Samraksh K. R. (BDS, MPH) & Pragati B Hebbar (BDS, MDS) from IPH, Bengaluru. Provided in public interest for the purposes of supporting disease response and management. Must always be used in consultation with local experts and adapted to local district/state/regional context. For further information contact adresearch@iphindia.org

Oral Cholera Vaccination

Consider vaccination with oral cholera vaccine (OCV) to contain ongoing outbreaks (if implemented early) and to limit the spread of the outbreak into new areas. Preventive vaccination should be considered as an additional control measure and implemented in conjunction with other long-term and sustainable measures.

1. As per ICMR recommendations, deploy single-dose bivalent killed OCV (licensed in India) in operational exploration mode in high priority settings. See ICMR/NICED policy brief: https://vaccine.icmr.org.in/images/pdf/POLICY_BRIEF_on_OCV_NICED13Dec-1.pdf
2. OCV can also be used to prevent outbreak occurrence in settings with high risk of cholera (if there are large poor neighborhoods/slums near outbreak areas for example) and to reduce disease transmission and the incidence of the disease in endemic areas or hotspots.
3. Clearly define the geographical areas and population to be targeted by vaccination based on the epidemiological situation, risk factors and the current local infrastructure and capacities.

Preventive Measures with Social Mobilization and Community Engagement

Community engagement is a process of including at-risk and affected communities in the cholera control response throughout the process from planning and surveillance to implementation and monitoring. It promotes and facilitates community ownership in the response. An epidemic of cholera can be controlled more quickly when the affected people know how to protect themselves and their relatives and the community is engaged to help limit the spread of the disease. The following steps should be taken to help in community engagement:

1. Identifying and using trusted, community-appointed people as entry points for response teams to work with the at-risk community.
2. Empowering existing Gram Panchayat (COVID) task forces and including trusted leaders, respected members of the community, religious representatives and youth and women's group members who are responsible for engaging with the response teams and monitoring implementation of the local plan;
3. Facilitating routine feedback and engagement between the community and the cholera response team to be able to change the strategy if needed.
4. Investigate hygiene and sanitation infrastructure available in the area, including access to and use of these services. Identify at-risk populations and prioritize areas for rapid intervention.

5. Intervene with prompt WaSH measures; assure drinking water sources are adequately chlorinated at point of use at 0.5 mg/L of FRC. These measures can be prioritized in any high-transmission areas identified during the risk assessment.
6. Interventions to ensure access to chlorinated drinking water may include support to municipal systems or household water treatment.
7. At household level, provide soap and water treatment products. Deliver WaSH messages to prevent cholera. This action is often oriented to the household and neighbours of patients admitted to cholera treatment structures, and should be coordinated with hygiene promotion colleagues.
8. Visit the homes of cholera patients (when there are few and resources permit) and the affected communities to conduct active case finding, gather information and provide health education, water treatment products, soap and ORS.
9. Communicate often to the public through appropriate means (including press releases, TV, radio, social media) and strengthen community engagement. The messages should have limited text and contain illustrations of practical demonstrations (such as images showing procedures for chlorination of water, preparation of ORS, handwashing).
10. Adapt messages to target groups (such as males, females, adolescents, people who are illiterate) and give them in the local language.
11. Engage the community to transmit health promotion and cholera prevention messages and to promote early treatment for diarrhoea. Distribute ORS in the community and to households. Explain how to prepare and administer the ORS.
12. Messages should focus on recognizing symptoms of cholera and how it is transmitted, encouraging early treatment-seeking behaviour and increasing awareness of prevention practices and strategies.
13. Improve access to sanitation facilities (for example, latrines connected to a public sewer or to a septic tank, pour-flush latrines, simple pit latrines, ventilated improved latrines). Latrines should be placed in locations that will not contaminate any drinking water source of any drinking water source (at least 30 metres away from any water source and 2 meters above groundwater).
14. Discourage open defecation and work with the community to ensure safe disposal of excreta.
15. Ensure safe excreta management and disposal during the outbreak. However, avoid latrine emptying during cholera outbreaks. If latrines must be emptied, take all precautions to avoid contamination during emptying and ensure excreta is disposed of safely.

Risk Communication

Risk communication is defined as the real-time exchange of information, advice and opinions between experts or officials and people who face a threat to their survival, health or economic or social well-being. Communication with the public during a cholera outbreak is critical not only for the rapid control of the outbreak, but also to keep the public informed and reduce the risk of social, political and economic turbulence. To ensure effective risk communication the following steps can be taken:

1. Trustful communication in all review meetings up to the lowest level
2. Acknowledge and communicate even in uncertainty.
3. Be transparent and fast with the first communication and all communications.
4. Be proactive in public communication, using a mix of preferred channels of affected populations, such as TV, radio, SMS, internet, social media, mass awareness initiatives, and social mobilization.
5. Understand local knowledge and behaviours (including beliefs and barriers) towards cholera and adapt the messages accordingly.
6. Involve and engage the community in the outbreak response through community leaders and influencers.
7. Clarifying rumours and Community Concerns.
8. Trusted information should reach people and rumours should be addressed by maintaining a very open flow of information from the beginning of the outbreak; rumours spread easily when information is incomplete or delayed.
9. Define a strategy to disseminate accurate information promptly, rather than responding to rumours.
10. Provide information that is easily understood, complete and free of misleading information.
11. Key messages to the public should help people to recognize symptoms of cholera and how it is transmitted and provide information about what to do for prevention and treatment, encouraging early treatment-seeking behaviour.
12. Information should include what cholera is, how it can be prevented, why, when and where to seek help, and how to care for family members with diarrhoea.

Media Involvement in the Outbreak Response

Establish partnerships with the media to contribute to controlling the outbreak by providing:

1. information to people within and outside the affected area; information through the appropriate channels (radio, press, TV); the right type of information, with the right frequency.
2. When an outbreak starts, designate a single spokesperson who will be the focal point for the media.
3. Plan regular press releases and conferences. Prepare a set of frequently asked questions (FAQ) with responses.
4. Public health authorities are generally interested in using the media to provide information on preventive and control measures via public service announcements, while journalists may focus on disseminating news. A balance between the two interests should be established by negotiation.
5. The kind of information to be disseminated will depend on the levels of the media – local, national or international.

Access to Safe Water

Access to safe drinking water for the affected population is essential to reduce the spread of the disease in the community. When possible, also provide access to safe drinking water in nearby unaffected areas that are at high risk for cholera. Even if the drinking water source is safe, water can easily be contaminated during its collection, transportation and storage in the household. A safe water intervention should therefore begin with an improved water source and be followed by safe water collection, handling and storage. Analysis of the context will determine the best method for water treatment (at the source or at point of use). Selection of the water treatment method (such as filtration, disinfection, chlorination) will depend on the resources and techniques available and the parameters (physical and microbiological) of the water to be treated. Combining treatments (used together, either simultaneously or sequentially) will increase the effectiveness. Water quality should be monitored regularly to minimize the risk of microbial regrowth. To minimize the risk of contamination:

1. Encourage the use of closed, narrow-mouthed containers with protected dispensers (spigot, spout) for extracting water. Containers should be cleaned regularly and good hand hygiene should be ensured to

reduce potential contamination when filling or extracting water; and if not available, ensure drinking water is kept in a clean, covered container such as a bucket or large pot.

2. Deliver WaSH messages to prevent cholera. Provide household water treatment products and closed, narrow-mouthed water containers in the community to support good hygiene practices, as appropriate. Areas reporting cases should be prioritized
3. Ensure health workers and staff or volunteers working in the community are trained to teach local people about safe water treatment methods, including collection, transport, handling and storage. Education around hand hygiene when filling or extracting water is also important to reduce the risk of contamination.
4. Involve the community in development and monitoring of interventions that provide access to safe water to prevent cholera.

Safe Food Preparation

Safe food preparation is important to reduce the transmission of cholera in the community. Food can be contaminated with *V. cholerae* during production, preparation or consumption. The basic rules for safe food preparation should be included as part of health and hygiene promotion programmes. Street vendors and marketplaces with inadequate access to safe water and sanitation or inadequate hand hygiene can play an important role in spreading cholera. Food safety can be improved by:

1. Reinforce food safety laws and inspection of restaurants, food vendors and food processing factories and avoid unsafe agricultural practices (such as using sewer water to irrigate crops).
2. Train on or reinforce safe food preparation practices.
3. Promote hand hygiene and set up handwashing stations with soap and safe water in markets and places selling food.
4. Distribute IEC materials on safe food preparation and hygiene messages.

Safe funeral practices and handling corpses in the community

Funerals for persons who have died of cholera can contribute to the spread of an epidemic. Bodies of people who have died of cholera pose a risk of transmission because body fluids contain high concentrations of *V. cholerae*. Funerals can contribute to the geographical spread of cholera, as people who attend the ceremony may be infected and take the disease back to their communities. Contamination may occur during funerals when food and drinks are prepared by individuals who prepared or touched the body. Always consider social, cultural and religious beliefs

and practices. The family must be fully informed about the dignified burial process and their religious and personal rights. Ensure that they agree to all modifications of cultural practices before starting the burial.

It is important to have a discussion with community leaders to find a way to respect community practices and keep the population safe through preventive measures, including the following.

1. Avoid large funeral gatherings. If not possible, ensure all protective measures are in place, including hand washing facilities (soap and safe water, ABHR or, if these are not available, 0.05% chlorine solution) available to funeral participants.
2. Avoid allowing people attending funerals to touch the body of the deceased. If the body must be touched, those in contact with the body should immediately wash their hands and avoid touching their mouths.
3. Disposable gloves that are immediately discarded can also be used. Kissing the body should not be allowed.
4. Avoid serving food at the funeral. If food is served, it should be eaten hot and handwashing should be compulsory before eating or preparing food. A designated health worker present at the funeral gathering can be helpful in supervising and supporting the use of hygienic practices.
5. To prevent the spread of cholera, handling of corpses should be kept to a minimum and burial should take place as quickly as possible (preferably within 24 hours after death).
6. Trained staff who wash and prepare the body must wear gloves, aprons and masks. The body should be cleaned with 2% chlorine solution. If chlorine is not available, bedding and clothing can be disinfected by stirring for 5 minutes in boiling water and drying in direct sunlight, or by washing with soap and drying thoroughly in direct sunlight.
7. Trained staff should fill the mouth, nose and anus of the body (but not the vagina) with cotton wool soaked with chlorine solution.
8. The body should be carefully wrapped, preferably in a body bag. Only trained personnel should handle bodies during the burial process.

Checklist for assessment

Use checklist to assess disease response ideally to be prepared for presentation at the district/regional coordination committee/task force meeting

Assessment	Remarks
Outbreak detection	
Are the communication channels for reporting cases well established at the GP & taluka level?	
At the beginning, what alerted people to the possibility of an outbreak: - a sudden occurrence of the disease? - a persistent increase in reported cases (over a period of more than one week)? - a sudden increase in the number of cases? - an abnormal number of deaths?	
How long did the information take to reach decision-making level from the area where the outbreak occurred? (It should not be more than a few days. If yes, review reason for delay)	
Outbreak confirmation	
How was the diagnosis confirmed: - clinical case definition? - laboratory confirmation? - epidemiological suspicion associated with clinical case definition?	
What case definition was used to collect further information on cases and deaths (Review revising case definition with DHO/program officers)	
In the case of laboratory confirmation, - were the collection and the transportation of samples adequate? - Did the laboratory use enrichment techniques for the culture of Vibrio cholerae? - How long did the laboratory take to provide confirmation?	
How many samples were taken ? What proportion of samples were positive? (Positivity rate review periodically)	
Outbreak response	
Was there a cholera task force or a cholera coordination committee to follow up the outbreak and take decisions?	

Is this committee multisectoral (Health, medical educaiton, PWD, ZP, WCD..)?	
What measures have been taken to control the outbreak : - legal decisions (banning of festivals, inspection of food handlers and restaurants, etc.)? - assistance provided to affected areas (supplies, technical and staff support)? - health education campaigns? - timely and adequate mobilization of emergency supplies from national or donor sources? - information campaigns and use of media? - training organized (in surveillance or case management)?	
How was the response monitored: - follow-up of the outbreak through regular epidemiological reports? - impact of control activities on epidemiological trends? - field investigation to identify the source of contamination?	
Who was the nodal person designated to monitor and document control activities?	
Was a cholera emergency plan of action available? Was there an easy information flow from the affected areas to the control level and vice versa?	
Management of information	
Was there a strategy to disseminate accurate information promptly rather than respond to rumours?	
Did the involvement of the media contribute constructively to control of the outbreak?	
Was a nodal officer identified as the spokesperson for the district? Is s/he well informed in handling media inquiry?	
Was there any procedure for assessing the impact and spread of information?	
Case management	
Were flowcharts illustrating proper management of cholera cases prepared and available to health care workers?	

Did the flowcharts provide clear information on how to assess dehydration stage and did they provide clear information on the treatment protocol to apply according to the status of the patient?	
Were antibiotics reserved for severe cases only? Did the patients receive treatment other than rehydration and recommended antibiotics? Was the antibiotic therapy based on known antimicrobial resistance patterns?	
Are follow-up visits by ASHAs/AWW/ANMs/MHWs happening to neighborhoods where cases are coming from to advice others nearby?	
Were the cholera patients isolated from other patients (with special latrines)? Were the health care workers aware of the hygienic measures necessary to avoid contamination (hand-washing, isolation ward)?	
Mortality reduction	
How has the case-fatality rate (CFR) been calculated? Was there any risk of bias?	
Was the CFR over 1%? Was there any obvious reason to explain this CFR: - low accessibility of health care facilities or cholera camps? - inconsistent case management? - underlying factors such as malnutrition? - important contamination?	
Have professionals been trained to manage patients with cholera? If not, identify nodal training officer from medical college	
Were appropriate IV fluids, oral rehydration salts (ORS), and antibiotics available?	
Have special cholera treatment units (CTUs) been set up in order to provide quick treatment to cholera patients and to avoid overburdening other hospital wards? (Designate CTUs & ORPs as needed; ORPs can be developed at HWCs & Panchayats if needed)	

Was there adequate surveillance of patients with severe cholera (pulse, dehydration symptoms, respiration, fever, urine)?	
Were the cholera treatment units and oral rehydration therapy (ORT) corners accessible? Were there any geographical limitations on accessibility - or cultural, linguistic, or economic barriers?	
Hygiene measures at healthcare facilities/CTC	
Were the cholera treatment units located close to the most affected communities?	
Were there hand-washing facilities in the cholera treatment centre? Were the patients' relatives washing their hands every time they left the centre?	
Were the cholera treatment units organized in four areas: selection and observation, hospitalization, convalescent room for ORS treatment, neutral area (for kitchen, stocks of material, etc.)?	
Were measures in place for the safe disposal of excreta and vomit? Were there special latrines for cholera patients who can walk, separated from latrines used by the rest of the Patients?	
Community engagement	
Was health education an important part of the outbreak response?	
Were the messages spread illustrated by practical demonstrations (e.g. chlorination of water, preparation of ORS)?	
Were the messages disseminated through community or religious leaders or through any channel that reaches the maximum of people with greatest impact on their behaviours?	
Were the messages adapted to local cultural beliefs about the disease and to the capacity for implementing control measures in the community (e.g. if soap is unavailable, have ashes been recommended for washing hands)?	
Have efforts been made to encourage the use of latrines?	

Was there active case-finding in the community?	
Were education messages given to the patients and their relatives in health care facilities?	
Safe water (To be taken up at each Gram Panchayat with nodal person identified)	
Have the different sources of contaminated water been identified?	
Have these sources been disinfected during the outbreak?	
If wells were chlorinated, was there regular monitoring of residual chlorine?	
What measures were recommended to avoid contamination of water?	
Where chlorination of a water source was not possible, was there any programme to ensure safe drinking-water at household level?	
Were chemicals for water disinfection (chlorine compounds) available in the local market at affordable prices?	
Was there any system for providing safe water to high-risk communities during the outbreak?	
Did the population receive a supply of at least 20 litres of safe water per day per person?	
Were health workers properly trained to teach local people about hygiene and disinfection techniques?	
Was the community informed about preventing water contamination?	
Food safety	
Was the supply of water adequate for street food vendors (acceptable quality and sufficient quantities for drinking, washing food and hands, cleaning utensils)?	
Was there any regulation to ensure that minimum standards of hygiene were observed by food handlers during the outbreak? Was the inspection of food handling practices effective?	

Were street sales stopped during the outbreak? Have restaurants been closed?	
Is there any regulation to ensure minimum levels of hygiene for food products in the marketplace?	
Are any local dishes made with fish or raw fruit or vegetables?	
Are food handlers who sell raw or partially processed animal products for immediate consumption required to display a sign that informs the public of the increased health risk associated with consuming such food?	
Are latrines and hand-washing facilities available in marketplaces?	
Sanitation (For reporting by each Gram Panhayat)	
What percentage of the population was served with improved sanitation facilities	
Was there a good system in place for excreta management and disposal during the outbreak (latrine emptying and sludge removal from septic tanks)?	
Were the sanitation facilities vulnerable to flooding or other natural disasters?	
Could the sanitation facilities potentially contaminate any drinking water sources? IF yes, have these been closed?	
Was consideration given to providing sanitation services for high risk communities during the outbreak?	
Were health workers properly trained to teach local people about good hygiene behaviours	
Funeral practices	
Were there any official recommendations with regard to funeral practices, such as funeral gatherings, ritual washing of the dead, or funeral feasts? How has information on this been disseminated?	

Were funeral organizers aware of the risk and of the control measures that should be implemented to prevent contamination?	
Were communities aware of what to do with cholera patients who died at home? (Set up helpline for home deaths from any cause)	
Were health care workers, especially in cholera camps, well trained in handling corpses?	
Surveillance	
Were data from previous outbreaks available and used to provide better understanding of the current outbreak?	
Was there a good analysis of data by time, area, and high-risk group during the outbreak?	
Was the information collected and analysed promptly enough to be used in monitoring the outbreak?	
Did the patient file contain the essential basic information: patient's name, address, age, and sex, date of onset of symptoms, initial clinical assessment, evolution of illness, treatment received?	
Was the information available and easily understandable to decision makers (e.g. members of the cholera coordination committee)? Consider medico-social audit of deaths by medical college community medicine department	
Epidemiology	
Has an epidemiological investigation of the outbreak been undertaken?	
What kind of data analysis has been done: descriptive (person, place, time) or analytical (case study)? Have high-risk channels of transmission been identified (water, food)?	
Have the results of the investigation influenced the outbreak response?	
What kind of difficulties arose during the investigation (logistics, contact with media, delay in organizing the investigation)?	

Resources

1. Global Taskforce on Cholera Control Field Manual 2019. See https://www.gtfcc.org/wp-content/uploads/2020/04/gtfcc-cholera-outbreak-response-field-manual.pdf
2. Management of A CHOLERA EPIDEMIC: Practical guide for doctors, nurses, laboratory technicians, medical auxiliaries, water and sanitation specialists and logisticians; Medicins Sans Frontieres (Doctors without Borders). See https://medicalguidelines.msf.org/viewport/CHOL/english/management-of-a-cholera-epidemic-23444438.html
3. Cholera Toolkit; UNICIEF 2013. See https://sites.unicef.org/cholera/Cholera-Toolkit-2013.pdf
4. CDC Training manual for healthcare providers. See https://www.cdc.gov/cholera/pdf/haiticholera_trainingmanual_en.pdf
5. Cholera outbreak ASSESSING THE OUTBREAK RESPONSE AND IMPROVING PREPAREDNESS. WHO See https://www.who.int/cholera/publications/final%20outbreak%20booklet%20260105-OMS.pdf